Water Quality Analysis Simulation Program (WASP6) Workshop

WASP6 is an enhanced Windows version of the USEPA Water Quality Analysis Simulation Program (WASP). WASP6 has been developed to aid modelers in the implementation of WASP. WASP6 has features including a pre-processor, a rapid data processor, and a graphical post-processor that enable the modeler to run WASP more quickly and easily and evaluate model results both numerically and graphically. With WASP6, model execution can be performed up to ten times faster than the previous USEPA DOS version of WASP. Nonetheless, WASP6 uses the same algorithms to solve water quality problems as those used in the DOS version of WASP.

WASP6 is used routinely throughout the United States in the development TMDLs and waste load allocations. The model contains algorithms for conducting: 1) Eutrophication/Conventional Pollutants, 2) Organic Chemicals/Simple Metals, 3) Mercury, 4) Temperature, Fecal Coliforms, Conservative Pollutants.

WASP6 contains 1) a user-friendly Windows-based interface, 2) a pre-processor to assist modelers in the processing of data into a format that can be used in WASP, 3) high-speed WASP eutrophication and organic chemical model processors, and 4) a graphical post-processor for the viewing of WASP results and comparison to observed field data.

Dates, Locations, and Logistics

Currently there are three WASP training courses being offered in 2002. These courses would not be possible without the support of: EPA Region 4, EPA ORD-NERL/ERD-Athens, EPA Office of Water and EPA Region 3. These training sessions will be free and offered at different localities across the United States. We are planning on having approximately 50 people in a class. Participants attending a WASP training course will be required to have a laptop computer or share a computer with someone. The laptop computer will be used for running the model and viewing the course materials. Each participant will receive a CD-ROM with the course materials, model installation/Documentation and hands-on example files. If you are interested in attending one of these workshops please contact Tim Wool at wool.tim@epa.gov.

Dates	Location
June 24 –28, 2002	Atlanta Federal Center, Atlanta, GA
August 5-9, 2002	EPA Region 10, Seattle, WA
September 9 – 13, 2002	EPA Region 3, Philadelphia, PA

Instructors:

Tim Wool – is with US EPA Region 4 as Senior Water Quality Modeler in the Standards, Monitoring and TMDL Branch. Tim has over 15 years experience in the development and application of WASP. Tim routinely uses WASP for the development of TMDLs.

Robert Ambrose – is with EPA ORD-NERL/ERD-Athens in the Processes and Modeling Branch. Bob has over 20 years experience in the development and application of WASP.

How to Register

If you are interested in attending one of these workshops please send e-mail to Tim Wool (wool.tim@epa.gov). There is no charge for the workshop; attendees are responsible for their travel and lodging. A list of local hotels will be e-mailed to you once you register.

Agenda

Monday – Registration / Introduction to Hydrodynamics

- 12:00 – 1:00
  - Course Registration
- 1:00 – 3:00
  - Introduction to Hydrodynamics
  - Hydraulics/Hydrodynamics in Streams & Rivers
  - Hydrodynamics in Estuaries
- 3:00 – 3:15
  - Break
- 3:15 – 5:00
  - Data Requirements
  - Illustrative Examples
    - One Dimensional
    - Two Dimensional
    - Three Dimensional
  - Issues Linking Hydrodynamic Models with WASP

Tuesday -- Introduction to WASP

- 8:30 – 10:00

    - Introduction to Modeling with WASP
    - Model Segmentation
    - Loads and Boundaries
- 10:00 – 10:15
    - Break
- 10:15-12:00
    - Advection
    - Dispersion
    - Sediment/Particulate Transport
- 12:00 – 1:15
    - Lunch
- 1:15 – 5:00
    - Overview of the WASP6 Modeling Environment
    - Development of a Conventional Pollutant Riverine TMDL
        - Model Segmentation
        - Flow Determination
        - Water Quality Boundary Conditions

Wednesday – Eutrophication

- 8:30 – 10:00
    - Introduction to Eutrophication
    - DO-BOD Interactions
- 10:00 – 10:15
    - Break
- 10:15 – 12:00
    - Algal Growth Kinetics
    - Eutrophication & Complex Nutrient Cycling
- 12:00 – 1:15
    - Lunch
- 1:15 – 5:00
    - Continued Hands-On TMDL Development
        - Dissolved Oxygen
        - Nutrient Enrichment
        - Others?

Thursday – Toxicants

- 8:30 – 10:00
    - Introduction to Toxicants
    - Sorption
    - Photolysis
    - Volatilization
- 10:00 – 10:15
    - Break
- 10:15-12:00
    - Biodegradation
    - Ionization

    - Hydrolysis
    - Reaction Products
    - Issues Relating to Bioaccumulation
- 12:00 – 1:15
    - Lunch
- 1:15 – 5:00
    - Illustrative Examples
        - Mercury Cycling
        - Ammonia Toxicity
    - Hands-on Experience

Friday – TMDL Development

- 8:30 – 12:00
    - Continued Hands-On TMDL Development
    - Site Specific Application Questions for using WASP in TMDL Development
        - Participants are invited to bring data to develop WASP input datasets.